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tubular member 75 having an integral frustoconical member 77 at its lower end may be identical to elongated member 11 and frustoconical member 14 of FIG. 1. As shown in FIG. 1, the bottom edge 79 of frustoconical member 77 is fluted. A grid 80 is mounted on tubular member 75. The grid 80 may be identical in all respects to grid 27 of FIGS. 7-10 except that it has four legs 81 molded integrally with rim 82 thereof. The fluted edge 79 of frustoconical member 77 can rest on the bottom 40 of receiver 37 (FIG. 1) and the upper ends 82 of legs 81 will bear against the underside of receiver top 50. The dimensions are such that the foregoing arrangement will cause the sides of adsorbent units 17 to bulge out into good contact with the inner surface of cylindrical housing 39 of receiver-dryer 37. Instead of having the fluted edge 79 of frustoconical member 77 rest on bottom 40, a rolled bead (not shown) may be provided on pipe 52 which is to be engaged with the inner upper narrow end of frustoconical member 77 to thereby limit the downward movement of the latter.

In FIGS. 17 and 18 yet another embodiment 10c of the present invention is shown. In this embodiment the holder 85 includes an elongated tube 87 having upwardly oriented annular serrations 89 and a grid 27' integrally molded therewith at its upper end. Diametrically opposed cutouts 90 may be located at the lower end of tube 87. A pair of adsorbent units 17 are mounted on tubular member 87. A frustoconical member 91 is provided with a fluted lower edge 92. Molded integrally with frustoconical member 91 is a tubular member 93 having internal downwardly oriented annular serrations 94. Four legs 95 have their upper ends molded integrally with fluted edge 92 at 90° intervals.

The embodiment of FIGS. 17 and 18 is installed in a receiver dryer 37 in the following manner. The holder 85 is in assembled condition with adsorbent units 17 mounted on elongated tube 87 between frustoconical member 91 and grid 27' (FIG. 18). The central refrigerant pipe 52 (FIG. 1) is inserted through tubular member 87 until a rolled bead 97 on pipe 52' engages the top of central tubular member 34 (FIGS. 7-10) of grid 27'. Pipe 52' is identical to pipe 52 of FIG. 1 except that it has the rolled bead 97 thereon. Thereafter, when the pipe 52' with the receiver top 50 are placed in position on the receiver body 39, the lower ends of legs 95 will bear against the inner surface 99 (FIG. 18) of receiver bottom 40. The dimensions are such that the distance between bottom inner surface 99 and rolled bead 97 will cause the sides of adsorbent units 17 to bulge outwardly into contact with the internal surface of receiver housing 39.

In FIGS. 19 and 20 another embodiment 10d of an adsorbent unit assembly is shown. In this embodiment the elongated tube 100 may be identical in all respects to elongated tube 12 of FIG. 4 including the downwardly oriented annular serrations and an integral frustoconical member 101 having a fluted edge 102. Additionally, the adsorbent units 17 are identical to those described relative to FIG. 2. A grid member 27 may be identical in all respects to the grid member of FIGS. 3 and 7-10. In addition to the foregoing structure, a coil spring 103 has a lower end 104 which bears on the upper surface of grid member 27. Also, a nut 105 is provided having internal annular upwardly oriented serrations 107. The nut 105 is installed as shown in FIG. 20, and it is moved downwardly to compress spring 103 between it and grid member 27. As can be seen from FIG. 20, the underside 107 of adsorbent unit 17 bears on the outer surface of frustoconical member 101, and the spring 103 bears on the upper surface of grid member 27. Thus, adsorbent units 17 are compressed between grid member 27 and frustoconical member 101. After the adsorbent unit

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assembly 10d has been installed, if the adsorbent within adsorbent units 17 should settle, the spring 103 will cause the grid member 27 to move downwardly to maintain the adsorbent in good compacted form, which, in turn, will cause the outer sides of the adsorbent unit 17 to bulge outwardly into good contact with the inner surface of housing 39. In an adsorbent unit assembly, such as shown in FIGS. 19 and 20, the central tubular member of grid member 27 which engages the outer surface of tubular member 100 need not be serrated because it can be slidably mounted on the outer surface of tube 100, considering that the serrations of the nut 105 and spring 103 will prevent grid member 27 from moving upwardly.

In FIGS. 21 and 22 yet another adsorbent unit assembly 10e is shown. This embodiment is essentially a reverse of the embodiment 10d of FIGS. 19 and 20. The holder 109 includes a tubular member 110 having upwardly oriented annular serrations 111 and a grid member 27" integrally molded with the top thereof. The other structure of grid member 27" may be identical to that shown in FIGS. 7-10.

A pair of adsorbent units 17 are mounted on elongated tubular member 110. In addition, a frustoconical member 112 is provided having an annular tubular extension 113 molded integrally therewith which slides up onto the lower end of tubular member 110. A coil spring 114 is provided which encircles the lower end of tubular member 110, and a nut 115 is provided with internal annular downwardly oriented serrations 117 which engage the upwardly oriented annular serrations 111 of tubular member 110. The upper end 118 of spring 114 bears on an annular stepped portion on the inside of frustoconical member 112, and the lower end 120 of spring 114 bears on nut 115. In assembled condition, the compressed spring 114 places constant compression on adsorbent units 17 which are held between frustoconical member 112 and grid 27". While the tubular portion 113 of frustoconical member 112 has been described above as not having internal serrations, it will be appreciated, if desired, it can have downwardly oriented annular internal serrations to mesh with the upwardly oriented annular serrations 111 of tubular member 110.

As with the embodiment of FIGS. 19 and 20, in the embodiment of FIGS. 21 and 22, the compressed spring 114 exerts continuous force on adsorbent units 17 so that they will remain in good contact with the internal side of receiver housing 39 even though the adsorbent therein may tend to settle.

While preferred embodiments of the present invention have been disclosed, it will be appreciated that it is not limited thereto but may be otherwise embodied within the scope of the following claims.

What is claimed is:

1. An adsorbent unit assembly comprising a holder, an elongated member on said holder, an enlarged portion on said elongated member, a cylindrical adsorbent unit, a central opening in said cylindrical adsorbent unit receiving said elongated member, and a grid on said elongated member on the opposite side of said adsorbent unit from said enlarged portion.
2. An adsorbent unit assembly as set forth in claim 1 wherein said enlarged portion is of generally frustoconical configuration, a smaller end on said frustoconical configuration secured to said elongated member, and a larger end on said frustoconical configuration remote from said smaller end.
3. An adsorbent unit assembly as set forth in claim 2 wherein said larger end is fluted.
4. An adsorbent unit assembly as set forth in claim 1 wherein said enlarged portion is located at an end of said elongated member.

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5. An adsorbent unit assembly as set forth in claim 1 wherein said grid has an outer circular configuration.

6. An adsorbent unit assembly as set forth in claim 1 wherein said grid has a central grid portion mounted on said elongated member.

7. An adsorbent unit assembly as set forth in claim 6 wherein said central grid portion comprises a grid opening receiving said elongated member.

8. An adsorbent unit assembly as set forth in claim 7 including serrations on the outer surface of said elongated member.

9. An adsorbent unit assembly as set forth in claim 8 including second serrations on said grid opening engaging said serrations on said elongated member.

10. An adsorbent unit assembly as set forth in claim 6 wherein said grid includes a circular outer periphery, and an edge seal on said circular outer periphery.

11. An adsorbent unit assembly as set forth in claim 10 including an interfitting connection between said grid and said elongated member.

12. An adsorbent unit assembly as set forth in claim 11 wherein said interfitting connection comprises first serrations on said elongated member, and second serrations on said central grid portion.

13. An adsorbent unit assembly as set forth in claim 12 wherein said enlarged portion is of generally frustoconical configuration, a smaller end on said frustoconical configuration secured to said elongated member, and a larger end on said frustoconical configuration remote from said smaller end.

14. An adsorbent unit assembly as set forth in claim 13 wherein said larger end is fluted.

15. An adsorbent unit assembly as set forth in claim 1 including an interfitting connection between said grid and said elongated member.

16. An adsorbent unit assembly as set forth in claim 15 wherein said grid includes a circular outer periphery, and an edge seal on said circular outer periphery.

17. An adsorbent unit assembly as set forth in claim 1 wherein said adsorbent unit is compressed between said grid and said enlarged portion.

18. An adsorbent unit assembly as set forth in claim 1 including a plurality of cylindrical adsorbent units compressed between said grid and said enlarged portion on said elongated member.

19. An adsorbent unit assembly as set forth in claim 1 wherein said grid is integral with said elongated member.

20. An adsorbent unit assembly as set forth in claim 19 wherein said enlarged portion is attachable to said elongated member.

21. An adsorbent unit assembly as set forth in claim 19 including a plurality of legs extending outwardly from said enlarged portion.

22. An adsorbent unit assembly as set forth in claim 21 wherein said enlarged portion is attachable to said elongated member.

23. An adsorbent unit assembly as set forth in claim 19 including a spring biasing said enlarged member toward said grid.

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24. An adsorbent unit assembly as set forth in claim 1 wherein said grid is a separate member which is mountable on said elongated member.

25. An adsorbent unit assembly as set forth in claim 24 including a plurality of legs extending upwardly from said grid.

26. An adsorbent unit assembly as set forth in claim 24 including a spring biasing said grid toward said enlarged member.

27. In a receiver dryer having a cylindrical housing and a central tube within said housing, the improvement comprising a holder, an elongated member on said holder positioned on said central tube, an enlarged member on said elongated member, a grid on said elongated member, at least one adsorbent unit having an outer periphery with said adsorbent unit being mounted on said elongated member and compressed between said grid and said enlarged member with said outer periphery of said adsorbent unit in engagement with said cylindrical housing.

28. In a receiver dryer as set forth in claim 27 including a circular outer periphery on said grid in engagement with said cylindrical housing.

29. In a receiver dryer as set forth in claim 28 wherein said elongated member is tubular.

30. In a receiver dryer as set forth in claim 29 wherein said enlarged member is frustoconical with a smaller end mounted on said elongated tubular member and a larger end remote from said elongated member.

31. In a receiver dryer as set forth in claim 30 wherein said larger end is fluted.

32. In a receiver dryer as set forth in claim 27 including an interfitting connection between said grid and said elongated member.

33. In a receiver dryer as set forth in claim 32 wherein said enlarged member is frustoconical with a smaller end mounted on said elongated member and a larger end remote from said elongated member.

34. In a receiver dryer as set forth in claim 33 wherein said larger end is fluted.

35. In a receiver dryer as set forth in claim 27 wherein said grid is integral with said elongated member.

36. In a receiver dryer as set forth in claim 35 wherein said enlarged portion is attachable to said elongated member.

37. In a receiver dryer as set forth in claim 35 including a plurality of legs extending outwardly from said enlarged portion.

38. In a receiver dryer as set forth in claim 37 wherein said enlarged portion is attachable to said elongated member.

39. In a receiver dryer as set forth in claim 27 including a spring biasing said enlarged member toward said grid.

40. In a receiver dryer as set forth in claim 27 wherein said grid is a separate member which is mountable on said elongated member.

41. In a receiver dryer as set forth in claim 40 including a plurality of legs extending upwardly from said grid.

42. In a receiver dryer as set forth in claim 40 including a spring biasing said grid toward said enlarged member.

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